

REMARKS

Reconsideration and continued examination of the above-identified application are respectfully requested. Filed with this amendment is a formal request to remove the finality of the present Office Action. A few weeks ago, the undersigned contacted the Examiner to request removal of the finality of this Office Action and the Examiner requested that the request be made in writing. In view of the new rejection relied upon by the Examiner in this Office Action, it is clear that this Office Action cannot be made final. The new rejection is not based on any amendment to the claims by the Applicants and further, the rejection could have been made under 35 U.S.C. §102(e) in the first Office Action. In other words, no action by the applicant necessitated this new ground of rejection. The Applicants reserve the right to make a formal Petition to the Group Director should the Examiner not grant the request for removal of the finality of the Office Action.

With respect to the amendment to claim 18, claim 18 now recites that the carbonaceous material does not include an activated carbon. Support for this amendment can be found throughout the present application. In particular, the present application sets forth examples of specific carbonaceous materials including activated carbon. The Applicants have the right to exclude disclosed embodiments of the present application by way of amendments. Accordingly, the Applicants have the right to amend claim 18 to indicate that the carbonaceous material does not include activated carbon. Furthermore, claim 19 has been amended to recite that the modified carbonaceous material is carbon black. New claims 50 and 51 recite specific forms of carbonaceous material which is not activated carbon. Accordingly, no questions of new matter should arise and entry of this amendment is respectfully requested. Furthermore, this amendment

places the application in addition for allowance.

At page 2 of the Office Action, the Examiner rejects claim 20 under 35 U.S.C. §112.

The Examiner asserts that claim 20 is indefinite because claim 20 fails to define the variable "y." For the following reasons, this rejection is respectfully traversed.

Claim 20, as originally filed, does not have the variable "y" in any of the language set forth in claim 20. Accordingly, this rejection is not understood. A correction is requested from the Examiner. In the alternative, this rejection should be withdrawn.

At the bottom of page 2 of the Office Action, the Examiner rejects claims 18-22, and 38-45 under 35 U.S.C. § 102(e) as being anticipated by Belmont (U.S. Patent No. 5,554,739). The Examiner asserts that Belmont teaches a modified activated carbon that can be used as an adsorbent which contains an organic alkyl or aromatic group attached to the carbon. For the following reasons, this rejection is respectfully traversed.

As understood by the Examiner, Belmont relates to carbon products having an organic group attached to the carbon material. However, as the Examiner acknowledges, Belmont only shows the use of activated carbon for exhibiting adsorption properties. Since claim 18 and the claims dependent thereon do not encompass the use of an activated carbon, Belmont does not teach the claims of the present application. Accordingly, this rejection should be withdrawn.

At page 3 of the Office Action, the Examiner then rejects claims 18, 19, 22, 23, 24, 38, and 46-48 under 35 U.S.C. §102(b) as being anticipated by Sutt, Jr. (U.S. Patent No. 4,528,281). The Examiner asserts that Sutt, Jr. teaches a carbon molecular sieve for selectively adsorbing gases or liquids including oxygen. The Examiner further asserts that Sutt, Jr. uses an activated carbon substrate having a polymer impregnated on its surface by a coating process and the polymer can

contain polar alkyl and aromatic groups, such as phenol and cyclic polyesters. The Examiner asserts that such a polymer is inherently attached to different portions of the substrate. For the following reasons, this rejection is respectfully traversed.

Claim 18 recites a method to adsorb an adsorbate wherein at least one organic group is attached to the carbonaceous material. As indicated in claim 18, the organic group comprises an aromatic group or a C₁-C₁₂ alkyl group directly attached to the carbonaceous material. It is important for the Examiner to understand that the aromatic group or alkyl group in the organic group is directly attached to the carbonaceous material. There is absolutely no teaching or suggestion in Sutt, Jr. which shows the direct attachment of an aromatic group or alkyl group onto the molecular sieve of Sutt, Jr. Each of the columns and line numbers of Sutt, Jr. referred to by the Examiner do not mention any such attachment and Sutt, Jr. merely indicates that the micropore structure of the carbonaceous substrates of Sutt, Jr. may be blocked by impregnation with an organic or inorganic polymer. There is no mention of any "attachment" and further and more importantly there is no mention whatsoever of an aromatic group or alkyl group being directly attached to the carbonaceous substrate. Since the Examiner has not shown where in Sutt, Jr. this specific limitation in claim 18 is shown, Sutt, Jr. cannot possibly teach or suggest the claimed invention. As the Examiner should appreciate, the mere mention of polymers, for instance at column 5, lines 24-35 of Sutt, Jr. is not a teaching or suggestion that the aromatic portions of these polymers are attached directly to the carbonaceous material. From the mere mention by Sutt, Jr. of just coating the polymer onto the carbonaceous substrate, it is clear that there can be no such specific attachment occurring.

In addition, Sutt, Jr. essentially relates to activated carbon-type products, which is excluded

by the claimed invention. Accordingly, Sutt, Jr. does not teach the claimed invention and the rejection should be withdrawn.

At the bottom of page 3 of the Office Action, the Examiner then rejects claim 25 under 35 U.S.C. § 103(a) as being unpatentable over Sutt, Jr. in view of Tanaka et al. (U.S. Patent No. 3,960,771). The Examiner relies on Sutt, Jr. in the same manner as discussed above with respect to the §102(b) rejection. The Examiner admits that Sutt, Jr. does not show that water is used as an adsorbate. In an effort to overcome this deficiency, the Examiner relies on Tanaka et al. to assert that activated carbon coated with a phenol hydrophilic group for adsorbing water molecules as well as odor causing gasses, such as ammonia is shown. Thus, the Examiner asserts that it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a modified activated carbon material to adsorb water in order to provide an adsorbate that is useful to separate water vapor molecules from an air stream. For the following reasons, this rejection is respectfully traversed.

The distinguishing points between the claimed invention and Sutt, Jr. set forth above with respect to the §102(b) rejection apply equally here and are incorporated by reference. As indicated, Sutt, Jr. does not teach or suggest the claimed invention and for this reason alone, this rejection under 35 U.S.C. §103(a) should be withdrawn as well since Tanaka et al. does not teach or suggest the many deficiencies of Sutt, Jr.

In addition, Tanaka et al., as admitted by the Examiner, relates to activated carbon which is not part of the claimed invention since claim 25 is dependent on claim 18. For this reason as well, this rejection should be withdrawn.

In addition, as with Sutt, Jr., Tanaka et al. fails to teach or suggest any direct attachment of

an aromatic group or alkyl group onto a carbonaceous material. Tanaka et al. merely relates to a composite adsorbent containing activated carbon and there is no teaching or suggestion whatsoever of attaching any organic group, for instance, as recited in claims 18 and 25, to a carbonaceous material in order to modify the carbonaceous material. The particular passages relied upon by the Examiner do not teach or suggest the attachment of an organic group. Furthermore, the combination of Sutt, Jr. and Tanaka et al. would not teach or suggest the claimed invention since neither reference teaches or suggests a method of using a modified carbonaceous material (as defined in claim 18) wherein the modified carbonaceous material is an organic group attached onto a carbonaceous material such that the aromatic or alkyl portion of the organic group is directly attached to the carbonaceous material. Again, nowhere in the Examiner's remarks has the Examiner shown where in Tanaka et al. or Sutt, Jr. et al. is there a specific teaching or suggestion of the direct attachment of an aromatic group or alkyl group onto the carbonaceous material. Accordingly, for these many reasons, this rejection should be withdrawn as well.

At page 4, the Examiner does indicate that claims 20 and 49 would be allowable if written in independent form. The Applicants appreciate the Examiner's indication that these two claims would be allowable. However, in view of the comments set forth above, the remaining claims are also allowable.

With respect to the arguments set forth at pages 4 and 5 of the Office Action, the Applicants have specifically addressed the points raised by the Examiner. As indicated, Sutt, Jr. merely shows a polymeric coating (as appreciated by the Examiner) and just because a polymeric coating may contain alkyl and aromatic groups, this does not mean that the alkyl or aromatic portion of this group is directly attached to the carbon substrate. This is a significant difference between the

Amendment After Final
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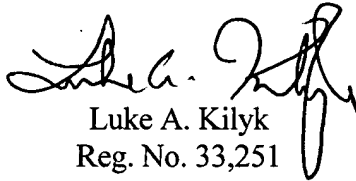
claimed invention and Sutt, Jr. as well as Tanaka et al. Accordingly, for these reasons, each of the rejections should be withdrawn.

CONCLUSION

In view of the foregoing remarks, the Applicants respectfully request the reconsideration of this application and the timely allowance of the pending claims.

If there are any other fees due in connection with the filing of this response, please charge the fees to deposit Account No. 03-0060. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such extension is requested and should also be charged to said Deposit Account.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

18. (Twice Amended) A method to adsorb an adsorbate comprising contacting said adsorbate with a modified carbonaceous material capable of adsorbing said adsorbate wherein at least one organic group is attached to said modified carbonaceous material, wherein said organic group comprises an aromatic group or a C₁-C₁₂ alkyl group directly attached to the carbonaceous material, with the proviso that said carbonaceous material is not activated carbon.

19. (Amended) The method of claim 18, wherein said modified carbonaceous material is [activated carbon or] carbon black.